

WHAT IS CLAIMED IS:

I Claim:

1 1. An apparatus for managing network interface
2 information, comprising:

3 a network equipment system having information that can
4 identify a site connected to one or more interfaces of each
5 piece of network equipment and including one or more management
6 information bases that store the interface information; and

7 a network management system for polling the management
8 information bases of each piece of the network equipment within
9 the network equipment system to collect the interface
10 information, adopting information that can identify each site as
11 primary information to compare the primary information with
12 already registered information and correcting the interface
13 information for each piece of the network equipment.

1 2. The apparatus according to claim 1, wherein the
2 information is identification one that can identify a
3 predetermined site, which is connected to the interface of one
4 or more pieces of the equipment.

1 3. The apparatus according to claim 2, wherein the
2 identification information is a code or identification
3 characters, and each code is granted according to pre-defined
4 rules in order to identify a predetermined site by steps and
5 comprised of multi-step sub-codes.

1 4. The apparatus according to claim 3, wherein the multi-
2 step sub-codes comprise classifiers in order to classify each
3 code.

1 5. The apparatus according to claim 4, wherein each code
2 is classified by using at least one of a group of classifier, a
3 Lightweight Directory Access Protocol and X.500.

1 6. The apparatus according to claim 3, wherein each code
2 corresponds to each interface description of each piece of the
3 network equipment.

1 7. The apparatus according to claim 6, wherein each code
2 is inputted to an interface description of each piece of the
3 network equipment.

1 8. The apparatus according to claim 1, wherein the
2 network management system reads a code inputted to an interface
3 description of each piece of the network equipment through
4 Simple Network Management Protocol and registers the read code
5 to a list of each piece of automatic management target
6 equipment, when registering the interface of the corresponding
7 network equipment.

1 9. The apparatus according to claim 1, wherein the
2 network management system reads interface information of each
3 piece of automatic management target equipment, adopts at least
4 one of the codes and host names as primary information, compares
5 the primary information with the already registered information
6 and corrects any change if there is, at every predetermined time
7 or in real-time.

1 10. An apparatus for managing network interface
2 information automatically, comprising:

3 polling agents for polling interface information of each
4 piece of network equipment from management information bases of

5 each piece of the network equipment at every predetermined time
6 or in real-time;

7 an automatic management module for confirming changes or
8 adds of the interface information read from the polling agents,
9 correcting or managing the interface information; and

10 a database server for storing registration information for
11 each piece of the network equipment or each interface managed by
12 the automatic management module and providing user interface
13 with the stored information.

1 11. The apparatus according to claim 10, the
2 automatic management module comprising:

3 a management target equipment list portion for managing
4 interface changes;

5 a site code management portion for enabling information
6 matched with each code to be inputted and displayed;

7 an automatic management engine for collecting information
8 of each piece of the network equipment at every predetermined
9 time or in real-time using the management target list and
10 comparing the collected information with the registration

11 information to manage network interface information
12 automatically; and

13 an interface management display portion for displaying a
14 log of corrected information and intervention by an
15 administrator, if necessary, as a web page .

1 12. A method for managing network interface information,
2 comprising steps of:

3 (a) granting codes, indicating sites connected to each
4 interface of each piece of network equipment and generating a
5 management target equipment list;

6 (b) collecting interface information for each piece of the
7 network equipment through Simple Network Management Protocol to
8 generate a table at every predetermined time or in real-time;

9 (c) checking non-defectiveness of the codes for the
10 collected interface information of the table; and

11 (d) comparing information registered to a network
12 management system with the collected table using the granted
13 codes and correcting changes of the registered information.

1 13. The method according to claim 12, the automatic
2 management for the network equipment comprising the sub-steps
3 of:

4 collecting information from each piece of the automatic
5 management target equipment selected by an administrator to
6 generate the table;

7 notifying abnormal codes among the collected information to
8 the administrator, deleting the abnormal codes from the
9 collected table, checking operation statuses of an interface of
10 each piece of the network equipment to decide if the codes are
11 necessary and notifying the checked results to the
12 administrator;

13 comparing the collected table with the registered
14 information and correcting the registered information; and

15 deciding if a line is canceled or used and deleting
16 unregistered codes from a site code list.

1 14. A method for managing network interface information,
2 comprising the steps of:

3 (a) inputting interface information connected or to be
4 connected to an interface of each piece of network equipment;

5 (b) matching the interface information with interface
6 description;

7 (c) registering the inputted information to a network
8 management system; and

9 (d) changing the interface information using codes of the
10 inputted or registered information.

1 15. The method according to claim 14, wherein interface
2 information such as Null or loop-back, of no meaning in
3 automatic management is not used as information for change.

1 16. The method according to claim 14, wherein each piece
2 of the network equipment has different hostname each other.

1 17. The method according to claim 16, wherein granted
2 codes may be the same if each piece of the network equipment has
3 different hostname each other.

1 18. The method according to claim 14, wherein granted
2 codes are different each other if there are any two or more
3 pieces of the network equipment having the same hostname.

1 19. The method according to claim 14, wherein code
2 information is granted differently each other or predetermined
3 information is added to a code, which is granted to a site, if
4 there are 2 or more lines at a site of the same interface or the
5 same piece of the network equipment.

1 20. A method for managing network interface information,
2 comprising the steps of:

3 (a) inputting a hostname to each piece of network
4 equipment;

5 (b) inputting interface information including a code of
6 corresponding site to one or more interfaces of each piece of
7 the network equipment;

8 (c) generating an automatic management list to register the
9 list to a network management system;

10 (d) receiving current network equipment information at a
11 predetermined period or in real-time, comparing the received
12 information with the one registered to the network management
13 system using one or more hostname and code information, and

14 performing at lest one of a group of change of the interface
15 information, addition of a new interface and deletion; and
16 (e) displaying a new interface management picture.

1 21. The method according to claim 20, further comprising
2 reading management information base values of a corresponding
3 piece of network equipment using SYSlog transmitted from each
4 piece of the network equipment at a predetermined time or in
5 real-time, if interface information is changed.